

CLAIMS:

1. A connector for connection between an inflatable bladder and a hose, the connector comprising:
an elastic sheet forming a portion of a wall of the inflatable bladder;
and
a first slot within the sheet dimensioned to form an airtight seal around an outer surface of the hose when the hose is inserted through the slot in a direction generally parallel to the sheet.
2. The connector of claim 1 wherein the slot further comprises:
a first hole at a first end of the slot;
a second hole at a second end of the slot;
a first flap on a first side of the slot;
a second flap on a second side of the slot; and
wherein the holes and flaps stretch to form the continuous airtight seal.
3. The connector of claim 1 and further comprising:
a first finger grip.
4. The connector of claim 1 and further comprising:
a second slot; and
a second finger grip.
5. The connector of claim 1 wherein the elastic sheet is heat sterilizable.

6. The connector of claim 1 wherein the elastic sheet shows no image upon being x-rayed.

7. A connector for connection between an inflatable bladder and a hose, the connector comprising:

a thermoplastic elastomer sheet having a durometer hardness rating that provides limited durability to the connector;

a slot within the thermoplastic elastomer dimensioned to form an airtight seal between the inflatable bladder and the hose, the slot further comprising:

a slit;

holes at ends of the slit;

tabs at intersections between the slit and the holes; and

wherein no leakage occurs around the holes, because the holes have a diameter that allows the tabs to recede when the slot is stretched open.

8. The connector of claim 7 wherein the hose is about 1.25 in.

9. The connector of claim 7 wherein the thermoplastic elastomer has a durometer hardness rating of about Shore A 20 to about Shore A 40.

10. The connector of claim 8 wherein the thermoplastic elastomer has a thickness of about 0.06 inch.

11. The connector of claim 8 wherein the distance between centers of the holes is between about 1.16 in. and about 1.29 in.

12. The connector of claim 8 wherein a distance between the centers of the holes is about 1.23 in.
13. The connector of claim 8 wherein the diameter of the hole is about 0.187 in.
14. The connector of claim 8 wherein the slit has a width of about 0.03 in.
15. The connector of claim 7 and further comprising:
a finger grip for pulling the slot open.
16. The connector of claim 15 wherein the finger grip is comprised of the thermoplastic elastomer.
17. The connector of claim 15 wherein a base of the finger grip has a diameter of about 0.13 in and a height of the finger grip is about 0.44.
18. A connector for connection between an inflatable bladder and a hose, the connector comprising:
an elastic sheet forming a portion of a wall of the inflatable bladder,
the elastic sheet having a durometer hardness rating and a thickness; and
a first slot within the sheet, the slot having dimensions dependent on the durometer hardness and thickness and form an airtight seal around an outer surface of the hose when the hose is inserted through the slot in a direction generally parallel to the sheet.

19. The connector of claim 18 wherein the hardness of the sheet and thickness of the sheet have an inverse relationship.
20. The connector of claim 19 wherein the slot further comprises:
holes for increasing a range of hardnesses and a range of thicknesses tolerated by the inverse relationship.
21. A pneumatic chest compression vest comprising:
a front panel with an inner and outer surface;
an air bladder on the inner surface;
a belt connected to the front panel for securing the vest;
a connector for connecting the air bladder to a hose, the connector further comprising:
an elastic sheet forming a portion of a wall of the inflatable bladder; and
a first slot within the sheet dimensioned to form an airtight seal around an outer surface of the hose when the hose is inserted through the slot in a direction generally parallel to the sheet.
22. The vest of claim 21 wherein the connector further comprises:
a second slot.
23. The vest of claim 21 wherein the vest is flat for efficient packaging and stacking for storage.
24. The vest of claim 21 and further comprising:
a hose tie.

25. The vest of claim 24 wherein the hose tie positions and secures the hose generally parallel to the sheet.
26. The vest of claim 21 and further comprising:
an indicator for indicating prior use of the vest and tampering with the vest.
27. A pneumatic chest compression vest comprising:
a front panel with an inner and outer surface;
an air bladder on the inner surface;
a belt connected to the front panel for securing the vest; and
a connector to connect the air bladder to a hose, the connector being comprised of a thermoplastic elastomer having a durometer hardness rating that provides limited durability of the connector, a slot within the thermoplastic elastomer dimensioned to form an airtight seal between the inflatable bladder and the hose, the slot further comprising:
a slit;
holes at ends of the slit for easy insertion of the hose into the slot;
tabs at the intersection of the slit and the holes; and
wherein no leakage occurs around the holes, because the holes have a diameter that allows the tabs to recede when the slot is stretched open.
28. The vest of claim 27 and further comprising:
a second slot in the connector to receive a hose.

29. The vest of claim 27 wherein hose connects to the connector at an angle that is less than perpendicular to the front panel.
30. The vest of claim 27 wherein the vest is heat sterilizable.
31. The vest of claim 27 wherein the vest is flat for more efficient packaging and storage.
32. The vest of claim 27 and further comprising:
a hose tie for securing the hose to the vest.
33. The vest of claim 27 and further comprising:
an indicator for indicating prior use of the vest and tampering with
the vest.
34. The vest of claim 27 wherein the vest can be worn by a user while
being x-rayed.
35. A chest wall oscillation system comprising:
an air pulse generator for supplying oscillating air pulses;
a hose connected to the air pulse generator for transferring the air
pulses;
a chest compression vest connected to the hose, the vest receiving
the air pulses and applying an oscillating force to a chest
region of a patient;
a connector for connecting the hose to the vest, the connector
further comprising:

an elastic sheet forming a portion of a wall of the inflatable bladder; and

a first slot within the sheet dimensioned to form an airtight seal around an outer surface of the hose when the hose is inserted through the slot in a direction generally parallel to the sheet.

36. A chest wall oscillation system comprising:
 - an air pulse generator for supplying oscillating air pulses;
 - a hose connected to the air pulse generator for transferring the air pulses;
 - a chest compression vest connected to the hose, the vest receiving the air pulses and applying an oscillating force to a chest region of a patient;
 - a connector for connecting the hose to the vest, the connector being comprised of a thermoplastic elastomer having a durometer hardness rating that provides limited durability of the connector, a slot within the thermoplastic elastomer dimensioned to form an airtight seal between the vest and the hose, the slot further comprising:
 - a slit;
 - holes at ends of the slit for easy insertion of the hose into the slot;
 - tabs at the intersection of the slit and the holes; and
 - wherein no leakage occurs around the holes, because the holes have a diameter that allows the tabs to recede when the slot is stretched open.

37. The chest wall oscillation system of claim 36 wherein the hose connects to the connector at an angle that is less than perpendicular to the patient's chest such that the air pulses travel in a direction that is generally parallel to the chest region of the patient.

38. A chest wall oscillation system comprising:
means for supplying oscillating air pulses; and
means for connecting the means for supplying oscillating air pulses
to a chest compression vest such that the air pulses travel in
a direction generally parallel to the means for connecting.

39. A method of connecting a hose to an inflatable bladder, the method comprising:
stretching open a slot within an elastic sheet that forms a portion of
a wall of the inflatable bladder; and
inserting the hose into the slot that is dimensioned such that an
airtight seal forms around an outer surface of the hose when
the hose is inserted through the slot in a direction generally
parallel to the sheet.

40. The method of claim 39 and further comprising:
pulling a finger grip to stretch open the slot.

41. The method of claim 39 and further comprising:
supplying oscillating air pulses to the hose.

42. The method of claim 41 and further comprising:
positioning the inflatable bladder on a chest of a patient; and
applying high frequency chest wall oscillations to the patient.